CLAIMS

1. A method of manufacturing a thin-film transistor wherein a channel region facing a gate electrode through a gate insulating film and source and drain regions connected to the channel region are formed in a semiconductor film formed on a surface of an insulating substrate, characterized in that a recombination center for capturing carriers is formed in the channel region by introducing an impurity to said channel region.

2. A method of manufacturing a thin-film transistor according to Claim 1, characterized in that said impurity is at least one kind selected from the group consisting of inert gases, metals, Group III elements, Group IV elements and Group V elements.

3. A method of manufacturing a thin-film transistor according to Claim 1 or Claim 2, characterized in that a process of introducing said impurity to said channel region is carried out by injecting the impurity from a surface side of said channel region.

4. A method of manufacturing a thin-film transistor according to Claim 3, characterized in that a process of introducing said impurity to said channel region is carried out, after a crystallization process on a semiconductor film so as to form said channel region, by injecting the impurity from a surface side of said channel region.

5. A method of manufacturing a thin-film transistor according to Claim 3, characterized in that a process of introducing said impurity to said channel region is carried out, after a crystallization process on a semiconductor film so as to form said channel region, by injecting the impurity from a surface side of said channel region before a process of forming said gate electrode on a surface side of the channel region.

6. A method of manufacturing a thin-film transistor according to Claim 3, characterized in that a process of introducing said impurity to said channel region is carried out, after said gate insulating film and said gate electrode are sequentially formed on a surface side of said channel region, by injecting the impurity from a surface side of said gate electrode before an interlayer insulating film is formed on a surface side of the gate electrode.

7. A method of manufacturing a thin-film transistor according to any of Claims 3 to 6, characterized in that an average projected range of the impurity in said process of introducing an impurity is from the center in the direction of thickness of said channel region to an interface between the channel region and the gate insulating film.

8. A method of manufacturing a thin-film transistor according to any of Claims 3 to 6, characterized in that an average projected range of the impurity in said process of introducing an impurity is from the center in the direction of thickness of said channel region to an interface between the channel region and a layer located on said substrate side.

9. A method of manufacturing a thin-film transistor according to Claim 1 or Claim 2, characterized in that a process of introducing said impurity to said channel region is carried out by impurity diffusion from an impurity diffusion source arranged at a lower layer side of said channel region.

10. A method of manufacturing a thin-film transistor according to Claim 9, characterized in that said impurity diffusion is carried out in a crystallization process on a semiconductor film so as to form said channel region.

11. A method of manufacturing a thin-film transistor according to Claim 4, Claim 5 or Claim 10, characterized in that said crystallization process is laser annealing on a semiconductor film so as to form said channel region.

12. A method of manufacturing a thin-film transistor according to Claim 1 or Claim 11, characterized in that each process carried out after introducing said impurities to said channel region is carried out at a temperature below 400°C.

13. A method of manufacturing a thin-film transistor according to Claim 1 or Claim 11, characterized in that each process carried out after introducing said impurities to said channel region is carried out at a temperature below 300°C.